REMARKS

The present application was filed on May 26, 2006 with claims 1 through 41. Claims 1 through 41 are presently pending in the above-identified patent application. Claims 1, 7, 14, 22, 24, 26, 28, and 38 are proposed to be amended and claims 5, 18, 25, and 29 are proposed to be cancelled herein, without prejudice.

In the Office Action, the Examiner rejected claims 1, 3, 4, 14, 16-17 and 22-29 (co-pending Application 10/562,619) on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 3-4, 16, 18-19, 24 and 26-29 of U.S. Patent Application 10/562,620, rejected claims 1, 3, 4, 14, 16-17, 22-29, and 38-41 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 3-4, 9, 16, 18-19, 24, and 26-29 of U.S. Patent Application 10/562,620 in view of Mody et al. (United States Patent No. 7,269,127) in view of Murphy et al. (United States Patent No. 7,203,245), rejected claims 1-3, 5, 7, 14-16, 18, 20, 38, 39 and 41 under 35 U.S.C. §102(e) as being anticipated by Mody et al., rejected claims 4, 6, 8-13, 17, 19 and 21 under 35 U.S.C. §103(a) as being unpatentable over Mody et al. in view of Murphy et al., rejected claims 22-29 under 35 U.S.C. §103(a) as being unpatentable over Mody et al. in view of Tzannes et al. (United States Publication No. 2004/0047296), and rejected claims 30-37 under 35 U.S.C. §103(a) as being unpatentable over Stuber et al. (United States Publication No. 2003/007677) in view of Walton et al. (United States Publication No. 2003/0087673)

Double-Patenting Rejection

The Examiner rejected claims 1, 3, 4, 14, 16-17 and 22-29 (co-pending Application 10/562,619) on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 3-4, 16, 18-19, 24 and 26-29 of U.S. Patent Application 10/562,620, and rejected claims 1, 3, 4, 14, 16-17, 22-29, and 38-41 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 3-4, 9, 16, 18-19, 24, and 26-29 of U.S. Patent Application 10/562,620 in view of Mody et al. in view of Murphy et al.

Applicants note that independent claims 1, 14, and 38 have been amended to require *wherein said at least one training symbol comprises a plurality of subcarriers and wherein each of said subcarriers are active on only one of said N antennas at a given time* and

that independent claims 22 and 26 have been amended to require that a signal field is *diagonally loaded*. U.S. Patent Application 10/562,620, alone or in combination with Mody and Murphy, does *not* claim the cited features.

Thus, Applicants respectfully request that the nonstatutory obviousness-type double patenting be withdrawn.

Independent Claims 1, 14, and 38

Independent claims 1, 14, and 38 were rejected under 35 U.S.C. §102(e) as being anticipated by Mody et al. Regarding claim 1, the Examiner asserts that Mody discloses that the at least one training symbol (col. 7, lines 40-50) can be interpreted (col. 5, line 61, to col. 6, line 13) by a receiver (FIG. 1; col. 5, lines 46-60) having M antennas.

Applicants note that independent claims 1, 14, and 38 have been amended to incorporate the limitation of claim 5. In rejecting claim 5, the Examiner asserts that Mody teaches wherein each of the subcarriers are active on only one of the N antennas (FIG. 1; col. 5, lines 31-45) at a given time. In the text cited by the Examiner, Mody teaches

> Further shown in FIG. 1, the transmitter 14 also includes one or more modulators 24-1, 24-2, . . . , 24-Q that are configured to modulate signals for transmission over the channel 12. In this regard, the modulators 24 may employ various modulation techniques, such as SCFDE or OFDM. The modulators 24 are typically connected to the encoder 18 by the TDBs 22. The transmitter 14 also includes one or more transmit antennas 26-1, 26-2, . . . , 26-Q connected respectively to the one or more modulators 24-1, 24-2, . . . , 24-Q. Thus, each TDB 22 directs signals from the encoder 18 to a corresponding modulator 24, and the modulator 24 modulates the signals for transmission by a respective transmit antenna 26. An embodiment of a space-time signal structure transmitted by the transmitter 14 is described below with reference to FIG. 6. (Col. 5, lines 31-45.)

Applicants find *no* disclosure or suggestion in Mody that each of the subcarriers are *active on only one of the N antennas at a given time*. Independent claims 1 and 14, as amended, require transmitting from a transmitter having N antennas at least one training symbol using at least one antenna, such that said at least one training symbol can be interpreted by a receiver having M antennas, where M is less than N *wherein said at least one training symbol comprises a plurality of subcarriers and wherein each of said subcarriers are active on only one of said N antennas at a given time*. Independent claim 38, as amended, requires transmitting a legacy preamble having at least one long training symbol and at least one additional long training

symbol on each of said N transmit antennas, such that said training symbols can be interpreted by a receiver having M antennas, where M is less than N *wherein said at least one training symbol comprises a plurality of subcarriers and wherein each of said subcarriers are active on only one of said N antennas at a given time*

Thus, Mody et al., Murphy et al, Tzannes et al., Stuber et al., and Walton et al., alone or in combination, do not disclose or suggest transmitting from a transmitter having N antennas at least one training symbol using at least one antenna, such that said at least one training symbol can be interpreted by a receiver having M antennas, where M is less than N, as required by independent claim 1, as amended, do not disclose or suggest N transmit antennas for transmitting at least one training symbol using at least one antenna, such that said at least one training symbol can be interpreted by a receiver having M antennas, where M is less than N, as required by independent claim 14, as amended, and do not disclose or suggest transmitting a legacy preamble having at least one long training symbol and at least one additional long training symbol on each of said N transmit antennas, such that said training symbols can be interpreted by a receiver having M antennas, where M is less than N, as required by independent claim 38, as amended.

Independent Claims 22 and 26

Independent claims 22 and 26 were rejected under 35 U.S.C. §103(a) as being unpatentable over Mody et al. in view of Tzannes et al. Regarding claim 22, the Examiner asserts that Tzannes discloses receiving (FIG. 5; paragraph 0064) an indication of a duration (paragraph 0064) to defer (paragraph 0053) until a subsequent transmission (paragraph 0053).

Applicants note that independent claims 22 and 26 have been amended to incorporate the limitation of claim 25. In rejecting claim 25, the Examiner asserts that Tzannes teaches that the signal field is diagonally loaded (FIGS. 1 and 2; paragraph 0029). Contrary to the Examiner's assertion, however, Applicants find *no* disclosure or suggestion that a signal field is *diagonally loaded*. Independent claims 22 and 26, as amended, require receiving an indication of a duration to defer until a subsequent transmission, said indication transmitted such that said indication can be interpreted by a lower order receiver, *wherein a SIGNAL field is diagonally loaded across said plurality of transmit antennas*; and deferring for said indicated duration.

Thus, Mody et al., Murphy et al , Tzannes et al., Stuber et al., and Walton et al., alone or in combination, do not disclose or suggest receiving an indication of a duration to defer until a subsequent transmission, said indication transmitted such that said indication can be interpreted by a lower order receiver, wherein a SIGNAL field is diagonally loaded across said plurality of transmit antennas; and deferring for said indicated duration, as required by independent claim 22, as amended, and do not disclose or suggest at least one receive antenna for receiving an indication of a duration to defer until a subsequent transmission, said indication transmitted such that said indication can be interpreted by a lower order receiver, wherein a SIGNAL field is diagonally loaded across said plurality of transmit antennas; and means for deferring for said indicated duration, as required by independent claim 26, as amended.

Independent Claims 30 and 34

Independent claims 30 and 34 were rejected under 35 U.S.C. §103(a) as being unpatentable over Stuber et al. in view of Walton et al. Regarding claim 30, the Examiner asserts that Walton discloses obtaining feedback (paragraph 0039) from at least one receiver (FIG. 5) indicating a performance for at least one of the N transmit branches (FIG. 1; paragraph 0025); and adapting one or more parameters (paragraph 0039) of the at least one of the N transmit branches (paragraph 0025).

Applicants note that the term "feedback" has a well known definition in the art, as would be apparent to a person of ordinary skill in the art. Contrary to the Examiner's assertion, Applicants could find *no* disclosure or suggestion of *obtaining feedback from at least one receiver* indicating a performance for at least one transmit branch. Independent claims 30 and 34 require transmitting one or more symbols from a transmitter having N transmit branches; obtaining feedback from at least one receiver indicating a performance for at least one of said N transmit branches; and adapting one or more parameters of said at least one of said N transmit branches

Thus, Mody et al , Murphy et al., Tzannes et al., Stuber et al., and Walton et al., alone or in combination, do not disclose or suggest transmitting one or more symbols from a transmitter having N transmit branches; obtaining feedback from at least one receiver indicating a performance for at least one of said N transmit branches; and adapting one or more parameters

of said at least one of said N transmit branches, as required by independent claim 30, and do not disclose or suggest N transmit branches for transmitting one or more symbols; a feedback path for obtaining feedback from at least one receiver indicating a performance for at least one of said N transmit branches; and means for adapting one or more parameters of said at least one of said N transmit branches, as required by independent claim 34.

Dependent Claims 2-13, 15-21, 23-25, 27-29, 31-33, 35-37 and 39-41

Dependent claims 2-3, 5, 7, 15-16, 18, 20, 39 and 41 were rejected under 35 U.S.C. §102(e) as being anticipated by Mody et al., claims 4, 6, 8-13, 17, 19 and 21 were rejected under 35 U.S.C. §103(a) as being unatentable over Mody et al. in view of Murphy et al., claims 23-25 and 27-29 were rejected under 35 U.S.C. §103(a) as being unpatentable over Mody et al. in view of Tzannes et al., and claims 31-33 and 35-37 were rejected under 35 U.S.C. §103(a) as being unpatentable over Stuber et al in view of Walton et al.

Claims 2-13, 15-21, 23-25, 27-29, 31-33, 35-37, and 39-41 are dependent on independent claims 1, 14, 22, 26, 30, 34, and 38 and are therefore patentably distinguished over Mody et al., Murphy et al., Tzannes et al., Stuber et al., and Walton et al., alone or in combination, because of their dependency from amended independent claims 1, 14, 22, 26, 30, 34, and 38 for the reasons set forth above, as well as other elements these claims add in combination to their base claim.

Conclusion

All of the pending claims following entry of the amendments, i.e., claims 1-4, 6-17, 19-24, 26-28, and 30-41, are in condition for allowance and such favorable action is earnestly solicited.

If any outstanding issues remain, or if the Examiner has any further suggestions for expediting allowance of this application, the Examiner is invited to contact the undersigned at the telephone number indicated below.

The Examiner's attention to this matter is appreciated.

Respectfully submitted,

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